Preventing the Potentially Deadly Consequences of Flyrock at Mission Gorge Mining Plant

- **The aim of this brief summary of:** "Preventing the Potentially Deadly Consequences of Flyrock: Mandatory Minimum Setbacks and Separation Distances Required" **is to accentuate awareness of risks and policies involved of blast sight areas too close to residential areas to help reduce the risk of flyrock events.**
- **Risks include threats to life such as death, maiming, or injury, and damage to property like real estate and vehicles.**
- **While some companies may view these incidents as mere lawsuit settlements, they can be devastating for people directly impacted.**

2 Important Questions Need To Be Answered:

1. **What are the distances from residential streets and neighborhoods to the proposed locations of new blasting sights, located next to Mission Gorge Rd and Mission Vista Rd affecting the Mission Pacific neighborhood?**

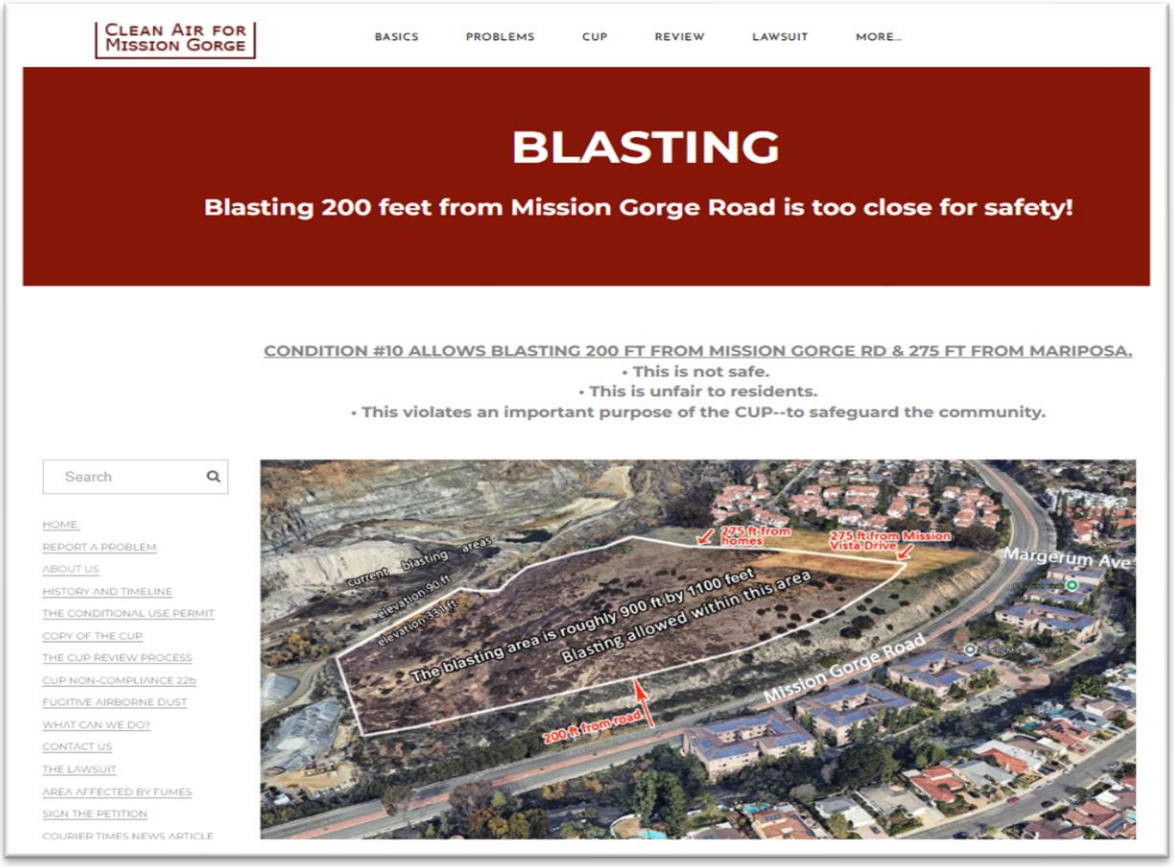
   200 – 275 feet

2. **What is a proposed safe distance according to current available data?**

   2,400 feet

- **Definition & Hazards**
  - ***Definition of Flyrock***: Uncontrolled rock fragments or debris ejected during blasting operations.
  - ***Hazards***: Potentially deadly outcomes for workers and nearby communities, with historical incidents underscoring risks of injury, fatalities, and property damage.
- **Rationale for Mandatory Minimum Setbacks**
  - ***Risk Reduction***: Increased setback distances significantly lower the probability that errant rock will reach populated or work areas.
  - ***Data-Driven Evidence***: Statistical correlation between insufficient setbacks and higher incident rates.

Safe Distances



The threat of flyrock will increase safety hazards for workers residents and travelers.

- The 200 and 275 ft setbacks are dangerously small for blasting.
- The setbacks are not even the distance of a football field.
- The region's unstable underlying soils require greater blasting distances to ensure safety.
- The MSHA recommends a 2400-foot setback for quarries that have experienced flyrock that traveled 1600 feet (like this quarry did in 2014). The proposed mining area is only about 1100 feet.

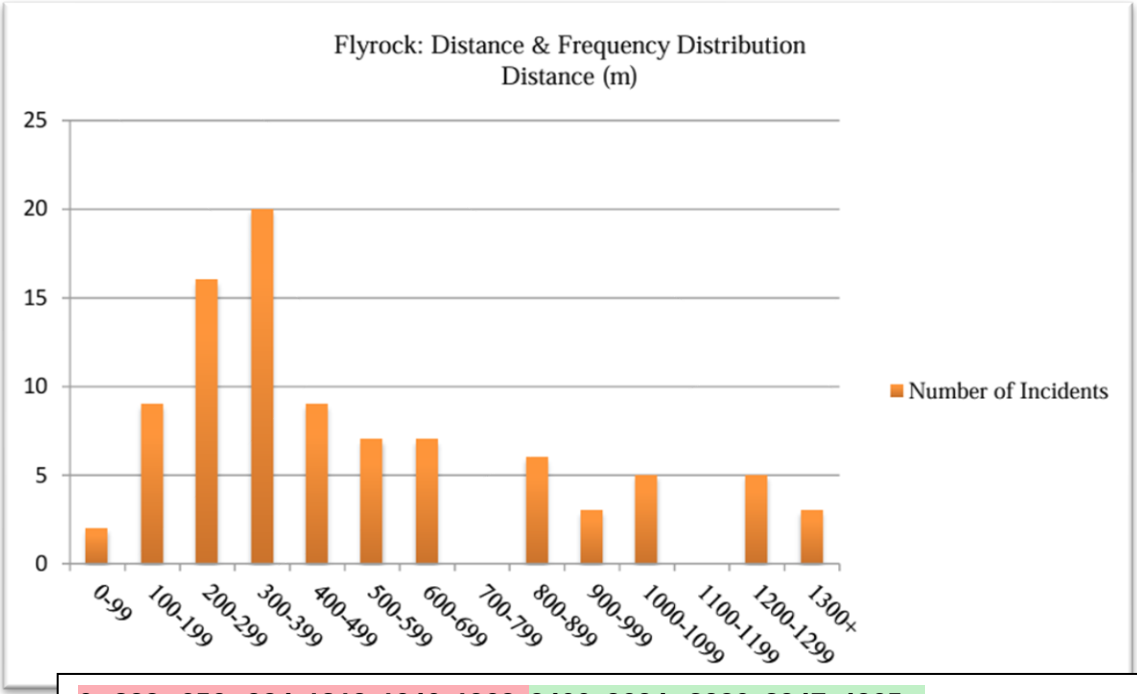
Source: https://www.cleanairformissiongorge.com/blasting.html

The MSHA – Mine Safety and Health Administration says: The set-back for blasting in a mine that has experienced a flyrock incident should be:

- A **minimum of 1.5 times the distance that the flyrock was thrown**.
- ***Per the MSHA best practices:*** The set-back for blasting should now be 2,400 feet (1600 feet times 1.5), not distances set in 1983, before flyrock incident was reported.

Source: https://www.msha.gov/mnm-serious-accident-alert-surface-blasting

Number of Incidents by Distance



0– 328– 656– 984–1312–1640–1968–2400–2624– 3280–3947–4265 +

Distance in Feet Numbers in Green are Safe Flyrock Distances: **MSHA**

(Note: This box has been added for readability showing conversion of Meters to Feet, not in original document.)

# of Incidents	% Incidents	Flyrock Incidents Occurred between **Distance in Meters**	Flyrock Incidents Occurred between **Distance in Feet**
2	2%	0 and 99	0 and 324
9	10%	100 and 199	328 and 652
16	17%	200 and 299	656 and 980
20	22%	300 and 399	984 and 1309
9	10%	400 and 499	1312 and 1637
7	8%	500 and 599	1640 and 1965
7	8%	600 and 699	1968 and 2293
6	7%	800 and 899	2624 and 2949
3	3%	900 and 999	2952 and 3277
5	5%	1000 and 1099	3280 and 3605
5	5%	1200 and 1299	3947 and 4261
3	3%	1300 or more	4265 +
92	Total 100%	(This table shows Meters to Feet and includes 92 incidents, not in original table)	

"The graph and data table summarizes the travel distances and frequency of 92 flyrock incidents where the travel distance from the blast site is known for each flyrock incident. The particulars of the flyrock incidents were obtained from a variety of online sources including news releases, formal investigations, published articles, journals, case law, etc." Tony Sevelka (Incidents appear to be from 1993 – 2021)

Chart & Table Data Source p.77-78: https://www.grassrootsjournals.org/gjnr/0504m00318.html

Additional Considerations

Economic and Environmental Impacts to Business and Community: Acknowledging that preventing flyrock incidents not only saves lives but also avoids costly business disruptions environmental and reputation harm.

- **Policy Recommendations and Best Practices**
    - *Standardizing Setback Distances*: Proposal for uniform, mandatory setback requirements across industries (mining, quarrying, etc.) to ensure consistent protection levels.
    - *Enhancing Blast Management*: Adoption of updated blasting methods and improved engineering practices to control and predict blast outcomes.
    - *Enforcement and Accountability*: Clear allocation of responsibilities among regulatory bodies, blasting operators, to ensure adherence to safety for all.
- **Technological and Operational Advancements**
    - *Real-Time Monitoring*: Integration of advanced sensing and tracking technologies to monitor blast impacts and adjust procedures dynamically.
    - *Predictive Analytics*: Use of data analytics to forecast flyrock behavior under different blast conditions, enhancing pre-blast risk assessments.
- **Stakeholder Roles and Community Impact**
    - *Collaboration*: Emphasis on the importance of multi-stakeholder dialogue—to shape effective safety protocols.
    - *Emergency Preparedness*: Recommendations for comprehensive response plans, training, and timely communication if incidents occur.
- **Conclusion**
    - *Safety First*: Reinforcing the premise that robust mandatory setback rules are indispensable in protecting lives and property. Safety for the community and safety for nearby residents.
    - *Policy Reform Urgency*: Updating and enforcing regulations, leveraging modern technology, and adopting best practices to prevent future flyrock disasters.

***Safe Distances*: Adhere to safe guidelines using current data for sound decision making that is good for all involved.**

Source: https://www.grassrootsjournals.org/gjnr/0504m00318.html